

# 2010-10-06 Wednesday Morning Notes

Tuesday, October 05, 2010  
2:02 PM

## On-call

- Wednesday & Thursday: Keith Gollwitzer

## Access

- Stochastic Cooling
  - Debuncher Vertical Band 4 TWT#1. Bad feed through on tank. Repairs would require us to break vacuum.
  - Debuncher Horizontal band 1 high level trombone repaired.
- RF
  - DRF1-2 thermocouple chassis power cycled
- Power Supplies
  - A:QDFPSI
  - D:QS703 shunt removed for repairs and MADC channel shorted
- Target Station
  - Dump water skid dropped 0.125" since Friday.
- ES&H
  - 40 circulating fan: airflow sensor switch repositioned
  - 60 circulating fan: Runs for a few minutes and then trips. Sounds mechanically bad.
  - D10 East ceiling O2 monitor replaced.
  - AP1 PreTarget Exhaust Fan Controller
    - During the access today, we put a video camera on the Pre-Target stairwell landing pointed at the controller for the exhaust fan at the upstream end of Pre-Target. If this fan trips, before FESS resets and restarts the fan, please go out to the Pre-Target enclosure entrance, and look at the monitor to get the error codes off the controller. The monitor is at the top of the stairs sitting on the floor, and you may have to turn the monitor on.
    - Also make sure everyone is in the loop for getting the fan reset: Pbar On Call, RSO, and FESS. This request does not change any other procedures.
- Controls
  - The roll-around console does not work in the tunnel at AP30.
- Utilities
  - EQ14 leak sensor cleaned up and returned to service
  - Small dripper on an orange hose on D1Q5
  - Small dripper on manifold for A1B3

## Stacking

- <stacking rate>= 26.1mA/hr
- <production>=24.5 pbars/Mp
- <beam on target>= 8.39 Tp
- Still running 2.8 second cycle time, but want to work our way back to 2.2 seconds.

## Transfers

- Unstacked 391 e10 pbars in 46 transfers over 15 sets
- <overall efficiency>= 94.3%
- Transfer #21083 only had a 82.8% efficiency due to a 5.91mm horizontal MI turn by turn oscillation.

- Ops did a beam line tune-up and transfer efficiencies improved.
- Taking that transfer out, we had an average transfer efficiency of 95%, down about 0.5% from yesterday and down 1.5% from best running.
- This morning we looked into this
  - M:HT100 at the beginning of the AP1 line was not ramping to the same value between reverse protons and pbars. This started behaving again.
  - We made a +10nsec adjustment to the Accumulator Extraction kicker timing to reduce clipping on the last bunch.
- Watch transfers today.

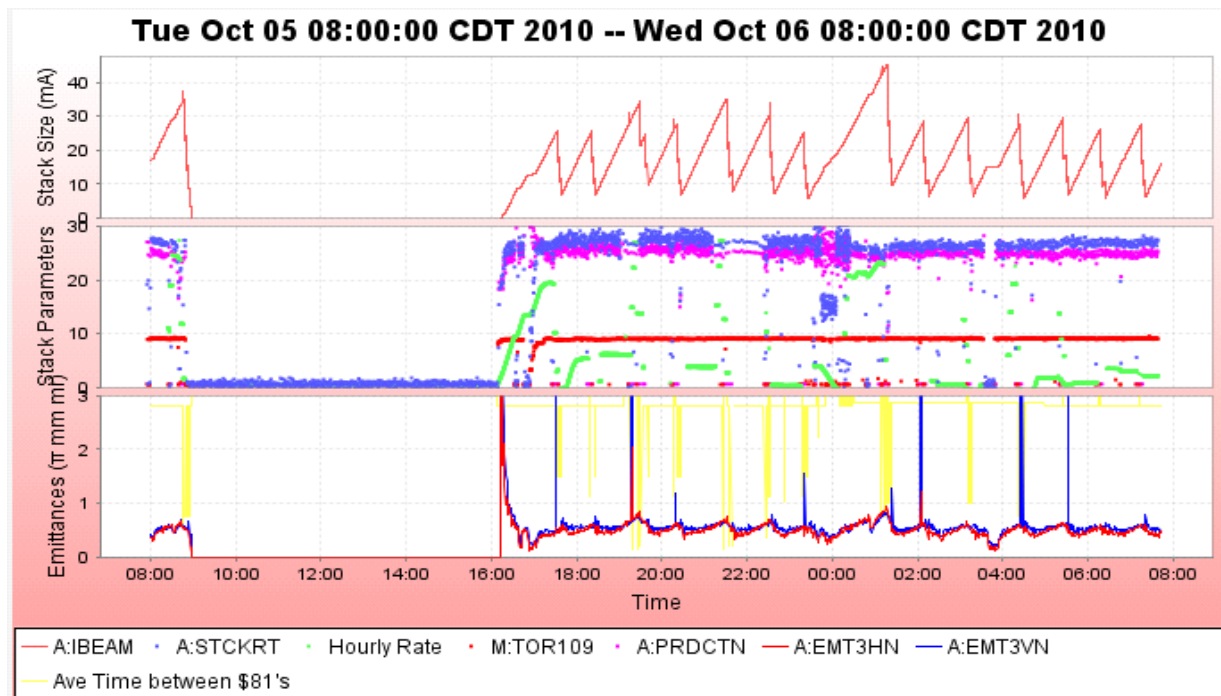
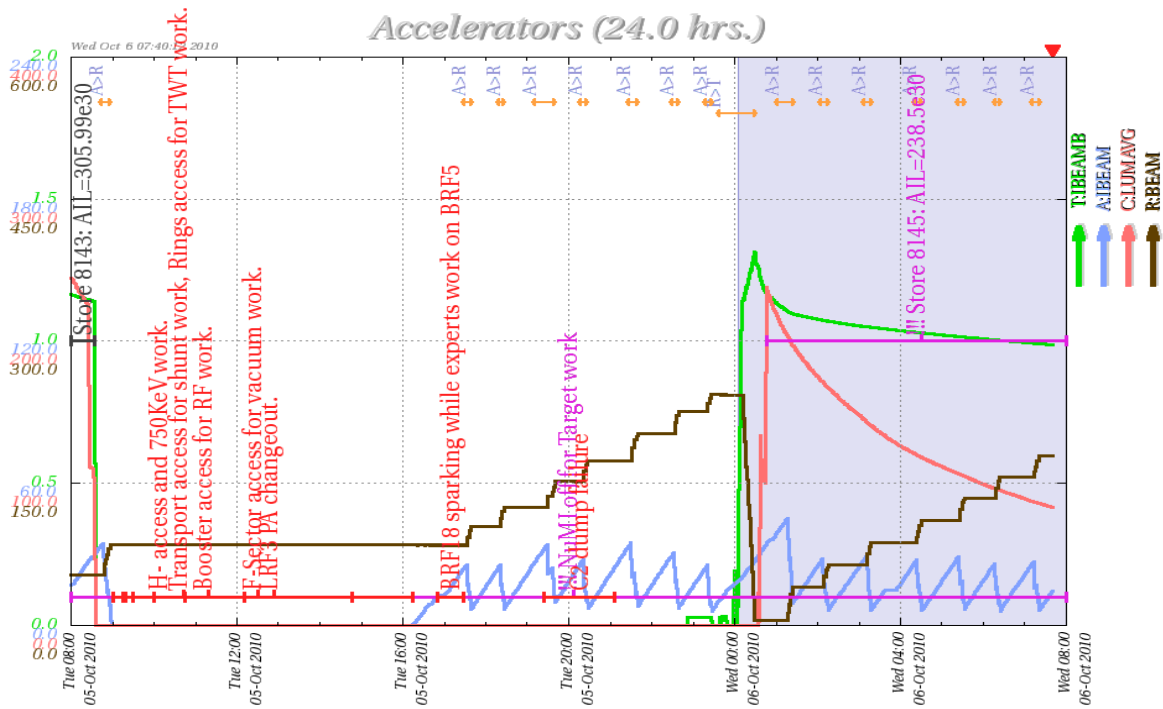
## Studies

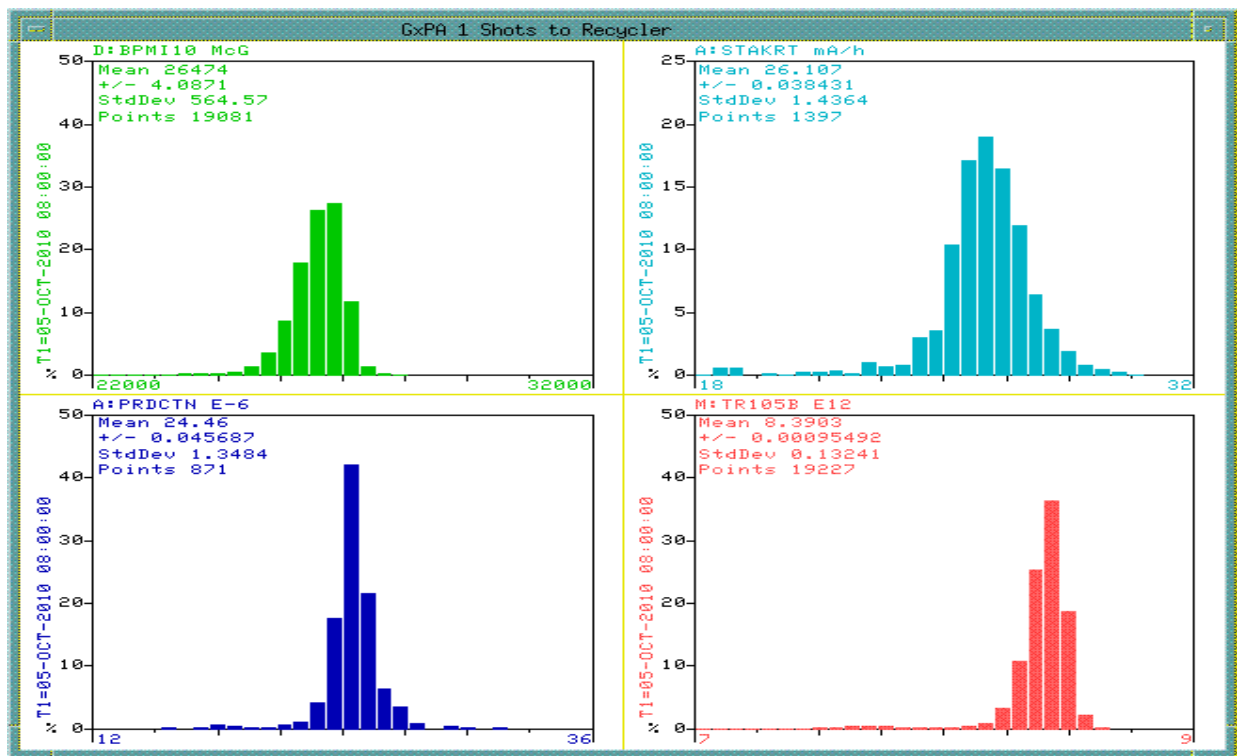
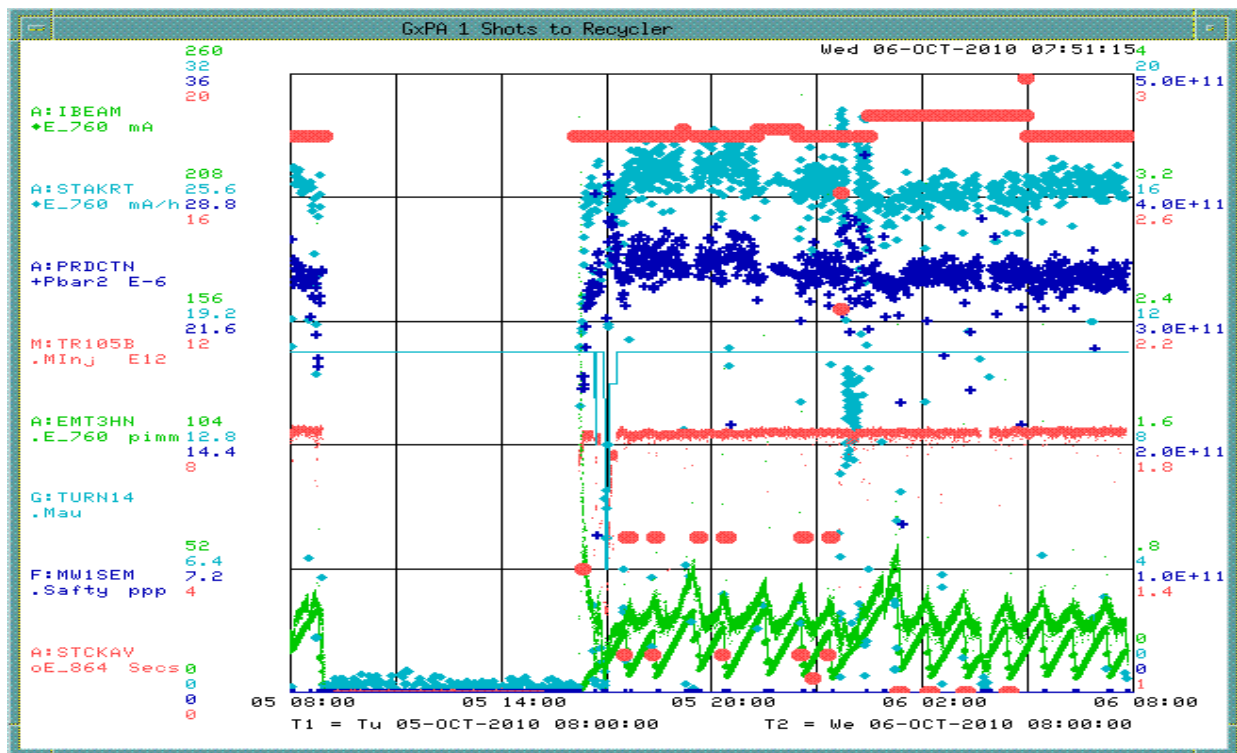
- Plan some Stacktail gain ramping studies
  - We will turn on gain ramping to verify that it works during the day. This will be transparent.
  - Thursday evening we would like to plan a couple hours of dedicated studies. This should be mostly transparent; however, studies may ask to change cycle times.

## The Numbers

- Stacking
  - Pbars stacked: 402.91 E10
  - Time stacking: 16.80 Hr
  - Average stacking rate: 23.98 E10/Hr
- Uptime
  - Number of pulses while in stacking mode: 20765
  - Number of pulses with beam: 19605
  - Fraction of up pulses was: 94.41%
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 15.87 Hr
  - Possible average stacking rate: 25.39 E10/Hr
  - Could have stacked: 426.75 E10/Hr
- Recycler Transfers
  - Pbars sent to the Recycler: 390.42 E10
  - Number of transfers : 46
  - Number of transfer sets: 15
  - Average Number of transfer per set: 3.07
  - Time taken to shoot including reverse proton tuneup: 00.16 Hr
  - Transfer efficiency: 94.50%
- Other Info
  - Average POT : 8.35 E12
  - Average production: 24.62 pbars/E6 protons

## The Plots





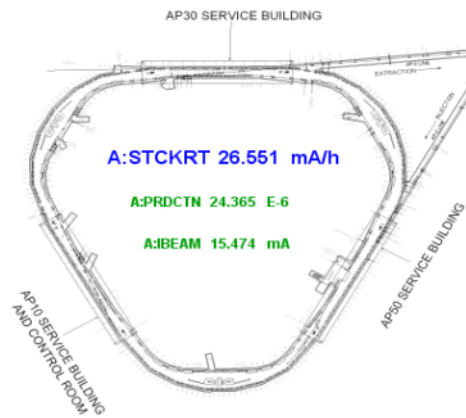
A:IBMINJ 17.622 e07  
 A:FTOVR 2.319 %  
 A:STMEDS 11.631 MeV  
 A:R1HLFB 19.768 kV

A:FRWDTH 15.756 Hz  
 A:CENFRQ 628896. Hz  
 A:R2DDS1 628897. Hz

A:EMT3HN 0.436 pimm  
 A:EMT3VN 0.525 pimm  
 A:XFRNXT 75.0 mA

MI EFF 0.0  
 M:TR105B 8.342 E12

G:TURN14 11.0 Turns  
 I:14SUM3 0.0 E12



D:724TOR 8.692 E09  
 G:RD2116 3.0 mRem

D:INJFLX 26.926 McG  
 D:FLXBTL 1.568 uSec  
 D:R1HLFB 5.05 MV  
 D:BPMI10 26445.0 McG  
 Z:PRDCTD 29.969 E-6

D:TGTCHK 147.31 %  
 D:TGTPWR 58.119 KW

## Pbar Beamlines BPM House Status

P1  
 P2  
 AP1  
 AP2 F27  
 AP2 AP50

0x80 Event Detected

A:STCKAV 2.8 Secs

Overthruer Status

Horizontal Area New	12.77	Intensity
Horizontal Area Calc	226.43	Intensity
Horizontal Sigma New	2.67	mm
Horizontal Sigma Calc	2.52	mm
Horizontal Mean	23.05	mm
Vertical Area New	13.18	Intensity
Vertical Area Calc	227.98	Intensity
Vertical Sigma New	2.76	mm
Vertical Sigma Calc	2.6	mm
Vertical Mean	7.4	mm

View Lumberjack Data

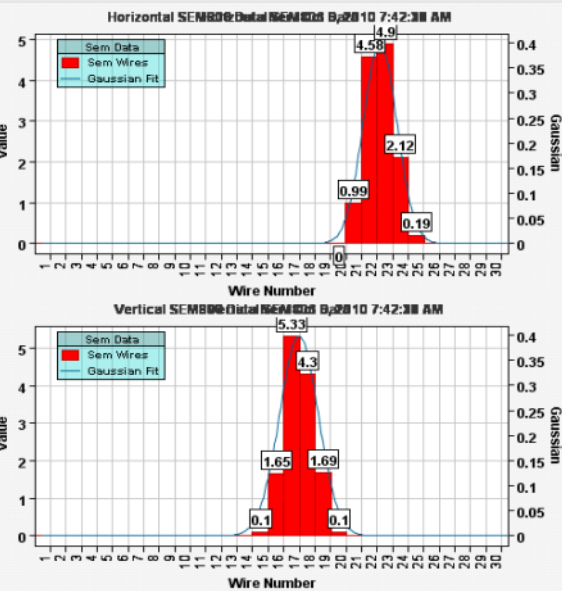
Pause

Old Hardware

Get Logged Sem Data

Animate

Animation Delay 1000 milliseconds



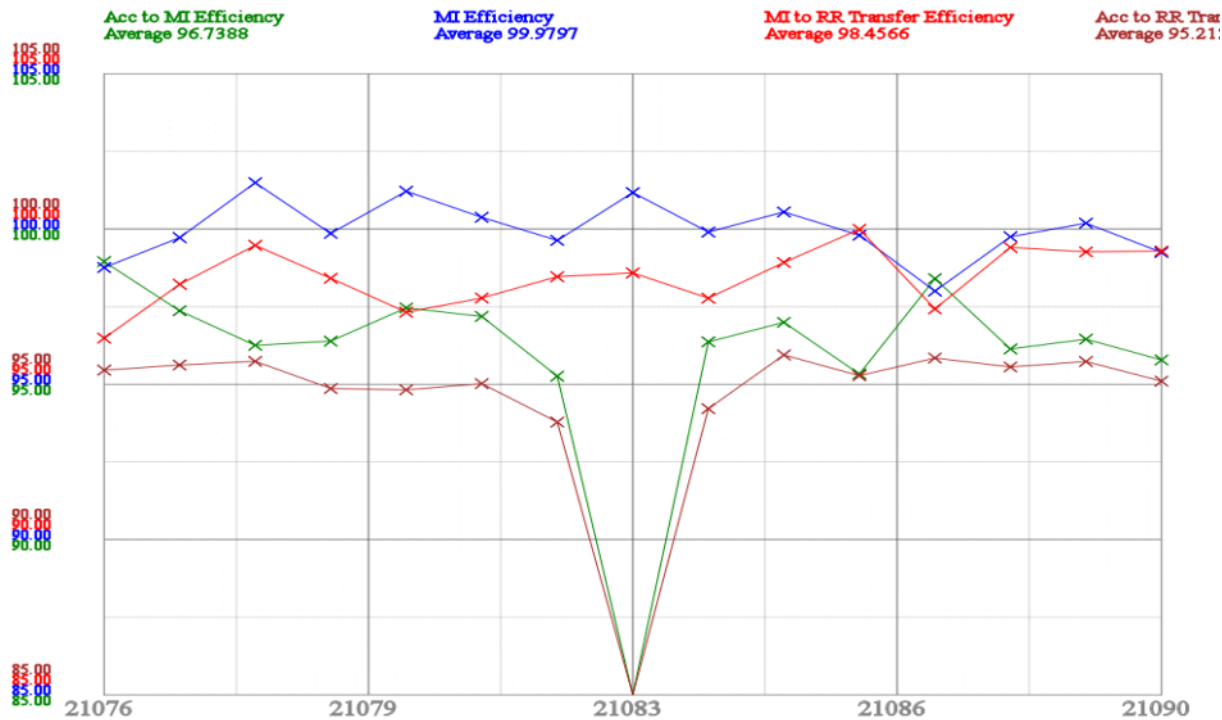
Start Time

Make End Time Now

Stop Time

10/06/2010 07:36:56

10/06/2010 07:41:56



Column 1 Number 0_Pbar Transfer Shot #	Column 4 Number_3 Transfer Time	Column 21 Number _20_A-I BEAMB sampled on \$91 (A-BEA M7), E10	Column 22 Number _21_A-I BEAMB sampled on \$94 (A-BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R-BEA ME0[0]) pre xfer E10	Column 24 Number _23_R: BEAM (R-BEA ME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Trans fers	Sets	Column 5 Number 4_Acc Horizontal Emittance	Column 6 Number 5_Acc Vertical Emittance	Column 8 Number 7_Acc Longitudinal Emittance	
	Totals =>			391.78			369.65	94.35%	96.02%	96.01%	92.18%	46	15	5.2307	5.2697	1.9224	
	Daily Average =>			391.78			369.65					46	15				
21090	Wednesday, October 06, 2010	7:14	27.46	6.12	23.97	156.22	178.84	22.77	94.97%	95.94%	95.67%	91.78%	3	1	4.95	5.35	1.931
21089	Wednesday, October 06, 2010	6:17	26.38	5.93	23.03	134.50	156.42	22.04	95.70%	96.80%	97.08%	93.98%	3	1	4.864	4.929	1.939
21088	Wednesday, October 06, 2010	5:25	29.61	6.72	25.55	110.44	134.71	24.39	95.44%	96.12%	96.11%	92.37%	3	1	4.977	5.465	1.933
21087	Wednesday, October 06, 2010	4:23	27.64	6.02	24.11	87.64	110.58	23.08	95.74%	98.15%	95.96%	94.18%	3	1	4.945	5.246	1.955
21086	Wednesday, October 06, 2010	3:11	29.50	6.52	25.44	63.66	87.79	24.24	95.26%	95.83%	95.93%	91.93%	3	1	5.011	5.107	1.905
21085	Wednesday, October 06, 2010	2:08	28.49	6.26	24.61	40.33	63.81	23.57	95.77%	96.62%	97.64%	94.34%	3	1	5.133	4.907	1.944
21084	Wednesday, October 06, 2010	1:17	45.29	9.52	37.73	5.23	40.46	35.42	93.89%	96.21%	96.03%	92.39%	3	1	6.847	6.414	1.82
21083	Tuesday, October 05, 2010	23:20	25.50	5.66	21.99	225.97	243.86	18.22	92.86%	84.57%	85.45%	72.27%	3	1	5.069	5.189	1.938
21082	Tuesday, October 05, 2010	22:33	30.95	7.02	26.00	202.04	226.31	24.41	93.87%	95.77%	95.35%	91.32%	3	1	5.484	5.559	1.911
21081	Tuesday, October 05, 2010	21:31	35.17	7.63	30.75	173.50	202.43	29.13	94.75%	96.93%	97.08%	94.10%	3	1	5.529	5.412	1.903
21080	Tuesday, October 05, 2010	20:21	27.62	6.70	23.27	151.88	173.82	22.08	94.89%	96.97%	98.23%	95.26%	3	1	5.191	4.91	1.953
21079	Tuesday, October 05, 2010	19:29	34.37	9.45	29.49	124.41	152.10	27.92	94.67%	96.38%	96.44%	92.95%	3	1	6.341	6.156	1.964
21078	Tuesday, October 05, 2010	18:21	25.60	6.66	21.02	104.68	124.63	20.08	95.54%	95.88%	97.34%	93.33%	3	1	5.303	5.246	1.856
21077	Tuesday, October 05, 2010	17:33	25.73	6.80	21.16	84.66	104.81	20.22	95.59%	97.25%	97.11%	94.44%	3	1	4.694	4.847	1.962
21076	Tuesday, October 05, 2010	8:47	34.75	3.51	33.66	53.54	85.50	32.08	95.30%	98.55%	97.33%	95.92%	4	1	4.122	4.309	1.922

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